



Applications of Neuropsychology in Capital Felony (Death Penalty) Defense

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ABSTRACT. Death penalty litigation is qualitatively different from other forms of criminal prosecution, representing the ultimate authority of the state to take life legally. Many death penalty eligible defendants have known or suspected brain injury or other forms of central nervous system compromise. This paper reviews a team approach, involving consulting and testifying neuropsychologists, to death penalty litigation as it relates to the issues of competency, criminal responsibility, and moral culpability. The special case of the death penalty defendant who may have mental retardation is also addressed. [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <<http://www.HaworthPress.com>> © 2003 by The Haworth Press, Inc. All rights reserved.]

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Little has been written about applications of neuropsychology in criminal litigation—so little in fact that the editor of an entire volume in forensic neuropsychology (Sweet, 1999) ignored the topic altogether, arguing that neuropsychologists have infrequent involvement in the criminal arena. The authors of this paper do not dispute the limited literature in the area; however, as neuropsychologists, the first two authors (CRR and JRP) have worked on more than 400 criminal cases where neuropsychological issues were salient, and, as an attorney, the remaining author (JN) has been involved in approximately 100 death penalty cases, most of which involved some issue of neuropsychological integrity. Neuropsychologists clearly have a special role to play in a variety of criminal trials. Herein, however, we deal with the criminal charge we will refer to as a capital felony. Although this charge goes by different statutory names in different jurisdictions, we use the term generically to refer to felony cases in which the state or Federal government has the option to seek the death penalty (DP) against the defendant. Since all of the authors are in Texas, we will also be using Texas cases as examples throughout the paper. There is a great deal of similarity across states and the federal government in terms of the applicability of the information presented below; however, it remains important to be familiar with the state and local rules wherein you encounter a case as differences do occur.

Accurate statistics are not in our view available as to the incidence of a history of brain injury or other central nervous system (CNS) compromise among capital murder defendants. Nevertheless, we are confident, based upon our combined experience in more than 300 capital murder cases, that no less than 50% and more likely closer to 80% of such defendants have a history of CNS compromise (a term we use to encompass traumatic injury as well as the presence of developmental neuropathology or a known neuropathological syndrome including genetic defects of the CNS). The aggressive nature of such defendants is often interpreted as being associated with neuropsychological impairment as well (e.g., Geffner, 2003). Given the high incidence of CNS compromise likely present in this population, the need for neuropsychological expertise during all phases of defense against the DP is great. Neuropsychologists will have contributions to make to the trial team during pretrial discovery, pretrial hearings, the guilt/innocence phase of the trial, and the punishment hearing. When neuropsychological evidence is available but not presented or is presented ineffectively, contributions to the appeal process will be made. Post-conviction, appeal, and sentencing, the issue of competency to be executed may be raised as well.

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Individuals with CNS compromise face a variety of neurobehavioral and psychological problems that require the special expertise of the neuropsychologist trained in clinical examination and explication of brain-behavior relationships.

While many potential areas of specific contribution exist, the most frequent areas in which the neuropsychologist will contribute during litigation of capital felony cases revolve around competency, criminal responsibility, and moral culpability. These issues will vary by name and by specific issues that can be addressed across jurisdictions but possess many commonalities.

Competency refers generally to the ability to carry out or persist in some act in a knowing manner. Issues of competency in DP cases may range from the highly specific, e.g., competency to confess (did a brain-injured suspect understand his Miranda rights and understand the consequences of waiving such rights?) to the broader issues of competency to stand trial. The many areas of competency that may need to be addressed are covered in detail in Melton, Petrila, Poythress, and Slobogin (1997).

Issues of criminal responsibility typically revolve around the formation of intent and the question of insanity. Most, if not all, capital felony statutes require that the defendant intentionally or knowingly caused the death of another person. Criminal responsibility is typically a matter of the guilt or innocence of a defendant, not a post-conviction punishment issue. In some cases involving CNS-compromised patients, the ability to form this intent, which also requires an understanding of death and its finality, may be at issue. The issue of sanity at the time of the offense, traditionally one of the most controversial defense issues in American criminal justice (e.g., see Melton et al., 1997, especially chapter 8), may be at issue for the CNS-compromised defendant as well. Criminal responsibility involves the concepts of understanding and choice by a defendant. To be criminally responsible for an offense, in most states, a defendant must have had a choice to act otherwise and an understanding that the offensive conduct was wrong (at the time of the offense, not subsequent to treatment or at any other time). The specific legal characteristics of choice and understanding will vary from one jurisdiction to another as will whether their lack (and under what circumstances) constitutes insanity, mitigation, or is in fact irrelevant.

Moral culpability is distinguished from criminal responsibility and is typically a post-conviction issue dealing with punishment. A brain-injured defendant with severe problems of impulse control, associated with the brain injury, may well have known the offensive conduct to be

wrong, but if the offense was a result of an impulsive act associated with the brain injury, a jury may find such evidence mitigating, i.e., lessening the defendant's moral culpability while still holding the defendant criminally responsible. Just what a jury might determine to be mitigating typically is not dictated by statute but is generally held to include such factors as age, treatability, presence of mental retardation, extreme mental or emotional distress, mental illness, brain injury, or other factors that affect the ability of the defendant to appreciate the criminal nature of the offensive behavior or to conform his/her conduct to the law (Melton et al., 1997). The Federal courts have ruled repeatedly that, since the invocation of the death penalty is qualitatively different from any other potential sentence, potentially mitigating factors must be admitted into evidence and considered by the judge or jury. All of the authors of this article have worked on DP appeals that were successful because evidence of a defendant's brain injury or other CNS compromise was not presented to the jury during a punishment hearing.

It is within the expertise of the clinical neuropsychologist to evaluate and present evidence related to all of the above issues when a defendant has a CNS compromise. Various court rulings would seem to argue that the defense is compelled to identify and to put forth such evidence. Other rules exist for the neuropsychologist in capital felony litigation as well, and these will be addressed below along with amplification of the neuropsychologist's role in competency, responsibility, and culpability.

A TEAM APPROACH TO NEUROPSYCHOLOGY IN DP LITIGATION

Based largely upon experience, two of the authors (CRR and JN) have developed a team approach using two neuropsychologists in DP litigation wherein CNS compromise is known or suspected. One team member functions essentially as a neuropsychological investigator, usually under the rubric of consulting neuropsychologist. The other team member examines the defendant and acts as the testifying expert.

Consulting Neuropsychologist (CN)

The CN generally assists the defense attorney to identify the major neuropsychological issues in the capital felony trial. This is done by reviewing criminal records, background data (including medical, psychological, school, military, and similar records), and conducting collateral

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interviews. The goal is to help the defense attorney prepare an organized, comprehensive, and ethical defense at trial and to be prepared to address the special issues in punishment (especially future dangerousness and mitigation issues) should the state obtain a conviction. The communication between the CN and the defense attorney has the same level of privilege and confidentiality as does the client-attorney relationship. The CN will also be in a position to prepare the defense counsel to conduct a thorough examination of the prosecution's experts who may opine on the issue of CNS compromise. The CN may operate in this environment in a frank, unguarded manner and does not have any issues of potential conflict of interest that may plague the testifying expert who attempts to do a thorough job in such preparations. The CN can also be present in the courtroom during the actual testimony of the state's expert, providing defense counsel with additional assistance in understanding data, neuropsychological testimony, and identifying promising areas for cross-examination. Depending upon the jurisdiction and any pretrial rulings or agreements, the testifying expert may or may not be allowed to sit in on other expert testimony. The CN also acts as a reviewer for defense counsel, considering the exam results obtained on the defendant and posing questions for the testifying expert, thus helping defense counsel do a better job of putting forth the opinions of the testifying expert. The CN can be an advocate for the defendant to some extent in some of these roles, whereas the testifying expert should not be in an advocacy role. The CN can also participate in plea bargaining or other negotiations at the side of the attorney, perhaps swaying the presentation through the educational process concerning any apparent CNS compromise of the defendant. Such premature exposure of the testifying expert can be harmful to the defense case and can assist the prosecution in developing better cross-examination of the defense expert(s).

Testifying Expert (TE)

The TE neuropsychologist will need to review all relevant records, conduct a thorough examination of the defendant, and interview collateral sources as needed. The TE may or may not be required to produce a written report. The role and often the behavior of the TE differs from the CN in significant ways.

The TE neuropsychologist is an expert who has specialized knowledge and skills in the biological bases of behavior and brain-behavior relationships in particular. The testifying neuropsychologist is hired for the specific purpose of providing objective, truthful information that

will help to resolve disputes and aid the trier of fact in determining key issues in the case. The neuropsychologist who testifies in a capital felony trial is cast in the role of educator and is neither an advocate for the client nor a decision maker. The information provided to the jury is based upon objective data, clinical experience, and research that is scientifically reliable. As an objective witness, the testifying neuropsychologist should generally not be involved in attorney preparation for cross-examination of the state's experts and related matters, as this may compromise the TE's objectivity in the case. No aspect of communication between the TE and the attorney is privileged. Conversations between the TE and defense counsel may be queried on cross-examination and knowing this is likely to occur may make some TE's reticent on some aspect of pretrial work. The CN has no such concerns.

The roles of the consulting neuropsychologist and the neuropsychologist who functions as an expert witness are quite different roles with very little overlap. There is some duplication of effort in the records review process, but otherwise there is no added expense in having a team approach to working on capital felony cases.

In our view, both the consulting neuropsychologist and the testifying neuropsychologist are critical elements in the defense of a capital felony trial. There is commonly a significant imbalance between the resources available to the prosecution and the defense in these cases. A vast majority of the individuals who are on trial for their life are indigent and cannot afford the resources needed to mount an appropriate defense and are thus at the mercy of the court in providing access to experts and investigators. It has been our experience over many years of forensic work that a proper defense requires the team effort outlined herein and that the team approach also enhances the probability that a verdict will not be overturned and retried, thus being more economical in the long term as well.

PRE-TRIAL ISSUES

Lawyers who are defending a capital crime will often have to question the cognitive ability of the client. The issues of competency may arise early in the representation. If the client gave a statement to law enforcement, certainly counsel will want to know if the proper warnings were given prior to the statement being made (*Miranda v. Arizona*, 1966). Perhaps of more importance to counsel, and the neuropsychologist who may be advising him/her, is the question, "Was the accused

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capable of understanding the Miranda warnings?" If the warnings were understood, was the accused competent to waive the rights of which he was advised? (*Westbrook v. Arizona*, 1966; *Godinez v. Moran*, 1993). Was the statement given to law enforcement a voluntary statement? (*Jackson v. Denno*, 1964).

The techniques that were used to obtain the statement will likely be an issue of concern. What were the actual techniques that were used to obtain the statement? Did the client suffer from one or more neurological impairments that made him more vulnerable than the ordinary person to the techniques that were used to obtain the statement? Were these techniques generally accepted in the law enforcement community? (e.g., see Inbau et al., 2001). Did law enforcement use coercive techniques that are not acceptable? What impact, if any, did the good and/or bad techniques, individually or collectively, have on the client that are associated with the defendant's CNS compromise?

The forensic neuropsychologist can often give the trial team insight into the cognitive abilities of the client that are relevant to these and other issues that arise prior to trial. Individuals with a history of CNS compromise, especially involving traumatic brain injury (TBI), are likely less tolerant of stress and do not possess the reasoning or logic of the ordinary person. If such conditions exist, they may be persuasive with a judge in evaluating the conduct of the police in determining whether to admit a confession or related evidence.

If defense counsel suspects that the client suffers from one or more neurological impairments, the question of the client's competency to stand trial must be addressed. The standard in most jurisdictions will involve the client's (1) present ability to consult with his lawyer with a reasonable degree of rational understanding, and (2) a rational, as well as factual, understanding of the proceedings that the accused is facing (Tex. C.Crim.P. Art. 46.02 1A).

In order to fully assess the client's competency to stand trial, counsel, often in consultation with a qualified neuropsychologist, will need to evaluate the client's abilities in a number of areas. The inquiry in any given case is both case and client specific. The areas to be examined may include the abilities listed in Table 1.

These elements of competency to stand trial were developed by the Group for the Advancement of Psychiatry (GAP, 1974) in the 1970s but are still considered to be current (e.g., see Melton et al., 1997).

Defendants with various forms of CNS compromise may have great difficulty with a number of these elements. TBI most often causes problems with attention and memory, and may disrupt sequencing skills and

TABLE 1. Group for the Advancement of Psychiatry Elements of Competency to Stand Trial

Areas to be examined may include the abilities listed.

1. understand his current legal situation
2. understand the charges against him
3. understand the facts relevant to his case
4. understand the legal issues and procedures in his case
5. understand legal defenses available in his behalf
6. understand the dispositions, pleas and penalties possible
7. appraise the likely outcomes in a realistic manner
8. appraise the varying roles of defense counsel, the prosecuting attorney, the judge, the jury, the witnesses, and the defendant
9. identify and locate witnesses
10. relate to defense counsel
11. trust and to communicate relevantly with his counsel
12. comprehend instructions and advice
13. make decisions after receiving advice
14. maintain a collaborative relationship with his counsel
15. follow testimony for contradictions and errors
16. testify relevantly and be cross-examined if necessary
17. assist his counsel in challenging prosecution witnesses
18. tolerate stress at the trial and while awaiting trial
19. refrain from irrational and unmanageable behavior during the trial
20. disclose pertinent facts surrounding the alleged offense
21. protect himself and use the legal safeguards available to him

other forms of logical reasoning, even when the TBI is mild. Deficits in these skill areas will cause issues of competency to arise frequently in DP defendants. Even a history of mild TBI may make elements 9, 12, 13, and 15-20 especially challenging, and the neuropsychologist should examine each of these areas carefully and as directly (e.g., using law inference techniques) as possible.

Perhaps the most important competency issue is the competency to be executed by the state as it carries out a death sentence in a capital case. The United States Supreme Court in *Ford v. Wainwright* (1986) has ruled that the Eighth Amendment's prohibition against the imposition of a cruel and unusual punishment prevents the execution of the in-

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sane. A person is not competent to be executed if he or she does not understand that execution is imminent and the reasons for the execution [Tex. C.Crim.P. Art/46.05(h)(1) & (2)]. This issue can be raised on a pretrial basis in an effort to exclude the DP as a sentencing option but may also be raised post-sentencing.

The lawyer should understand what level of understanding the client will need to have for effective representation. The lawyer should be able to appreciate the level of cooperation and assistance he/she will need from the client. The neuropsychologist should be able to educate the lawyer on what aspects of cognitive impairment the client suffers and relate the impairment to the needs of the lawyer and client. The neuropsychologist will also be able to educate the lawyer on the various standardized tests that are available to demonstrate, in the appropriate case, the client's lack of competency to stand trial or to be executed, and should be prepared to educate the attorney as to how the neuropsychological exam, when properly conducted, meets the standards of admissibility.

the judge.

CULPABLE MENTAL STATUS

The neuropsychologist can help the defense team understand any form of CNS compromise that may have affected the mental state of the accused at the time of the alleged offense. The ALI Model Penal Code attempts to simplify the *mens rea* inquiry by specifying four different levels of mental state. In descending order of culpability, these are (1) purpose, (2) knowledge, (3) recklessness, and (4) negligence.

The provisions of the Texas Penal Code that define the culpable mental states will be examined to see how the neuropsychologist may help analyze the client's mental state at the time of the alleged offense. While the penal provisions of the various jurisdictions may use language that varies, the basic concepts are comparable.

The Texas Penal Code makes a distinction between (1) nature of the conduct and (2) result of the conduct. Murder falls under the second section, i.e., result of the conduct. The following definitions are taken from 6.03 of the 2003 Texas Penal Code.

- a. A person acts intentionally, or with intent, with respect to the *nature of his conduct or to a result of his conduct* when it is his *conscious objective or desire to engage* in the conduct or cause the result.

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Conscious objective or desire is required as to both the nature of the conduct or the result. The key phrase then is conscious desire, because if one desires that something happen, it is likely that it would also be one's objective. The key phrase from a neuropsychological viewpoint appears to be conscious, which in legal circles is used principally to denote a level of awareness of the conduct that rises to purposefulness. An issue of the ability to form intent may be argued when CNS compromise is present, especially in cases of frontal lobe or executive system injuries.

a. A person acts knowingly, or with knowledge, with respect to the nature of his conduct or to circumstances surrounding his conduct when he is *aware of the nature of his conduct* or that the *circumstances exist*. A person acts knowingly or with knowledge with respect to a *result of his conduct* when he is *aware* that his *conduct is reasonably certain to cause the result*.

When describing the nature of the "conduct/existence of circumstances," the key mental state from a neurological viewpoint appears to be "awareness." When describing the "result of the conduct," the key words are again the concept of "awareness" and being "reasonably certain."

Therefore, when one examines the common mental states whereby one does something "intentionally and/or knowingly" from a neuropsychological standpoint, the most important concepts appear to be "consciousness" and "awareness." The questions then for the defense lawyer and the neuropsychologist may include:

1. How does neuropsychology define the concepts of being conscious or aware?
2. How can these neuropsychological concepts be translated into the criminal justice concept?
3. What neurological functions influence one being conscious of or aware of one's actions?
4. Does the biopsychosocial history indicate that the client suffers from any impairments in the areas of the neurobiological system that influence his being conscious of or aware of his actions?
5. Are executive systems that control the formation and understanding of "intent" impaired?
6. What tests, if any, are available to assess any impairment to the identified areas of the brain?
7. Can that impairment, if found, be quantified?

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8. What are the most effective and persuasive methods to present the information to a juror who must be educated by the lawyer (not just the various experts), but who may have no scientific background?

If a jury could have a reasonable doubt as to whether or not the accused committed the offense either "intentionally or knowingly," but could find beyond a reasonable doubt that the offense was committed by one with a lesser mental state, the defense would be entitled to an instruction on a lesser, included offense. Stated another way, the Constitution requires that the jury be instructed in any and all lesser included offenses "if the jury could rationally acquit on the capital crime and convict for the non-capital crime" (*Cordova v. Lynaugh*, 838 F.2d 764, 767 (5th Cir.) cert. Denied, 486 U.S. 1061, 1988).

These "lesser mental states" include "recklessness" or "criminal negligence" and usually involve the ability of the accused to observe an unjustifiable risk associated with the conduct. If the ability to form intent is sufficiently impaired, the defendant may still be guilty of a criminal offense, but not one that rises to the level of a capital felony for which he may be DP eligible.

Texas Penal Code §6.03(c) defines reckless conduct, the mental state required for a conviction for involuntary manslaughter, as:

A person recklessly, or is reckless, with respect to circumstances surrounding his *conduct* or the *result of his conduct* when he is *aware of but consciously disregards* a substantial and unjustifiable risk that the *circumstances exist or the result will occur*. The risk must be of such a nature and degree that its disregard constitutes a gross deviation from the standard of care than an *ordinary person* would exercise under all the circumstances as viewed from the *actor's standpoint*.

The key words, from the standpoint of neuropsychology, and in addition to the previously noted distinction between "conduct" and "result of conduct," include again the terms "aware" and "consciously." However, the offense consists of being aware of a substantial risk and the conscious decision to disregard it. It is also important to note that the standard of care has components of both an objective and subjective test. The conduct must be a gross deviation from the standard of care that an "ordinary person" (objective test) would exercise; however, the

jury is to consider the circumstances "... as viewed from the actor's [defendant's] standpoint" (subjective test).

In addition to the questions listed above, we might add:

1. Did the accused suffer from any neuropsychological impairments that would influence his ability to perceive and appreciate the risk that was inherent in his conduct?
2. Did the accused suffer from any neuropsychological impairments that would influence his ability to control his conduct, assuming that the risk could be perceived and appreciated?

Texas Penal Code §6.03(d) defines criminal negligence as:

A person acts with criminal negligence, or is criminally negligent with respect to circumstances surrounding his conduct when he *ought to be aware* of a substantial and unjustifiable risk that the circumstances exist or the results will occur. The risk must be of such a nature and degree that the failure to perceive it constitutes a gross deviation from the standard of care that an ordinary person would exercise under all the circumstances as viewed from the actor's standpoint.

The key phrase is "ought to be aware" and one can add to the growing list of questions:

3. Did the defendant suffer from any neuropsychological impairment that would affect his ability to perceive that a risk was inherent in his conduct?

The concept of consciousness or awareness is one that remains constant throughout the definitions of mental states enumerated in the Texas Penal Code. A similar pattern is seen in many other jurisdictions, although each will have its own wording and must be consulted as those issues are raised. Awareness is certainly related to cognitive functioning, and neuropsychologists often deal with various agnosias that are in essence impairments of awareness, but a broader form of agnosia may well be acting in the development of a complex behavior as denoted by the commission of a capital felony. The neuropsychologist can help the trial team understand the importance of the questions that have been identified above and more importantly, provide objective answers and describe the clinical examination results and underlying science that

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support the neuropsychologist's conclusions. The answers to these questions will certainly help the defense lawyers evaluate the client's conduct both for the merits phase of the trial and then again for the mitigation phase of the trial, regardless of the answers.

THE MITIGATION PHASE OF A CAPITAL TRIAL

Should the defendant be found guilty of an offense, the case will then proceed to the mitigation or punishment phase of the trial. It is during this phase when the jury will hear evidence bearing on the sentence to be imposed. In the capital case, the decision is one of life or death. This article focuses on the mitigation phase of a death penalty trial; however, it is important to note that neuropsychologists can contribute to the preparation of punishment-related evidence in the non-capital felony just as they can in guilt-innocence issues noted above. Mitigation work is solely and uniquely an act of the defense. While neuropsychologists may evaluate mitigation evidence proffered by the defense on behalf of the prosecution, it is usually to develop a line of attack on such evidence. Neuropsychologists working on behalf of the prosecution may be asked to look at aggravating factors; however, this is less common since aggravating factors are a matter of criminal investigation techniques in most circumstances.

The mitigation evidence presented during the punishment phase of a capital trial should serve to humanize the client and attempt to put his actions in context of the entire life of the defendant and any relevant history that may have contributed to the development of the actionable behavior. The defense team must present the jurors with an explanation, not an excuse, for the client's actions. The neuropsychologist can help the trial team and the jury understand the issue of moral culpability after the jury has decided that the client is criminally responsible.

Often, it is only the neuropsychologist who really appreciates the biological basis for the client's behavior and any impaired thought process before, during, and after the offense. Neuropsychological testing may show even subtle brain damage that may help explain the defendant's actions at the time of the offense. Imaging studies may show the jury anatomical or physiological abnormalities as well.

It is important to link the CNS abnormalities that are present to the defendant's behavior, but the emphasis is on explanation, not excuse. For example, consider a defendant with a history of bilateral prefrontal and basilar temporal injury who becomes disproportionately stressed

and fearful during a robbery and impulsively shoots a clerk and flees without taking the money from the register. If neuropsychological testing and/or neuroimaging studies confirm residual CNS damage or dysfunction, the neuropsychologist can relate the defendant's reactions to the injury to explain why the events likely occurred as they did and how they are related to the nature and location of the brain injury—this does not excuse the behavior. The jury has already found the defendant criminally responsible but will desire an understanding of the acts.

If a history of substance abuse is present, the neuropsychologist can describe the neurobiology of substance dependence and assist the trial team and the jury to understand the effect the defendant's dependence on drugs had on his judgment and choice.

The trial team will be able to use the information developed by the neuropsychologist to paint a vivid picture for the jury that may offer an explanation of the crime. This mitigating evidence, whether it involves a history of abuse, neglect, trauma, drug dependence, impairment to the executive functions of the cortex or other conditions, may allow the jury to understand how to punish the defendant fairly for his moral responsibility for the crime.

Many lawyers claim that traditional mitigation does not work. To some extent, this may be true. Certainly, capital crimes often are committed under such terrible circumstances that a death verdict seems inevitable no matter how well the case in mitigation is developed and presented. However, life verdicts continue to be returned in even the most challenging cases. In most jurisdictions it takes only one juror to return a life verdict. The trial team has a mandate from the previously noted U.S. Supreme Court decisions to develop all aspects of evidence that may justify a life sentence in the mind of at least one juror. The failure to do so often is determined on appeal to be reversible error.

Doing nothing will ensure that the jury will return a verdict of death. The development of mitigating evidence is a requirement under the ABA Guidelines on the Appointment and Representation in Capital Cases, 2003. The failure to develop mitigating evidence has been condemned by courts, including the United States Supreme Court in *Williams v. Taylor* (2000; also see *Wiggins v. Smith*, 2003).

Lawyers, with the aid of the neuropsychologist, must be prepared to show the jury not just the "what" in the client's life, but also answer the "so what" question that jurors will likely want answered. The important fact is not that the client suffered from fetal alcohol syndrome or that brain damage was the result of trauma or substance abuse or that the client's intellectual functioning is below average. The defense team must

lead the jury to understand the neurobiology of the crime. If the neurobiology is not understood, the jury will not be able to provide a death verdict.

When the jury is impaired, the result is a life verdict. This is often the case. The jury frequently finds the defendant guilty and evaluates the defendant's activities.

The forensic neuropsychologist's role in the trial is frequently irrelevant to the jury's decision. When the jury is impaired, the outcome is a life verdict. The jury's decision is based on the evidence presented, not on the neuropsychologist's testimony. The jury's decision is based on the evidence presented, not on the neuropsychologist's testimony.

NEUROPSYCHOLOGY

Forensic neuropsychology is a branch of psychology that deals with the assessment and treatment of individuals with mental and behavioral problems. It is a branch of psychology that deals with the assessment and treatment of individuals with mental and behavioral problems.

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lead the jury to understand how the relevant neuropsychological or neurobiological conditions influenced the client's life, and more importantly, the commission of the crime. It is only when the trial team can provide each juror with that explanation that the appropriate life or death decision can be made.

When present, an injury to the executive function of the brain that has impaired the client's ability to regulate and direct self-behavior effectively is of importance to both the merits and mitigation phase of the case. The neuropsychologist can educate the trial lawyers and subsequently the jury on the impact of specific neurological impairment on the defendant's ability to form the intent to commit the crime, identify and evaluate risks associated with behavior, plan effectively, carry out activities, and appreciate the impact of actions on others.

The foregoing are issues that can be relevant throughout many capital felony cases. The neuropsychologist can not only educate the lawyers about the neuropsychological issues, but can help translate the neuropsychological impression into relevant legal theories at both phases of the trial. For example, frontal lobe dysfunction/damage and subsequently impaired ability to develop and plan complex schemes may be relevant to the issue of "who was the leader and who were the followers." When multiple perpetrators are being tried in a capital case, who led or planned the offense is often contested and is crucial to individual outcomes. Impaired executive function may indicate an act that was impulsive rather than premeditated. The lack of awareness of the impact on others may be relevant to the ability to appreciate risk or may explain what would otherwise be viewed as a lack of empathy, conscience, or remorse.

NEUROPSYCHOLOGY AND MENTAL RETARDATION

Forensic neuropsychologists are particularly well-suited to conduct criminal forensic evaluations related to the issue of the assessment of cognitive abilities including evaluations pursuant to an *Atkins* claim of mental retardation in a death penalty capital murder case (*Atkins v. Virginia*, 2002). The legal facts and issues involved in *Atkins* (a case banning execution of persons with mental retardation) will be discussed in detail in this section. But first, why would forensic neuropsychologists be any more qualified to investigate mental retardation in an *Atkins* case than any other forensic, school, or clinical psychologist or than an education or rehabilitation specialist who provides services directly to indi-

viduals with mental retardation? The notion that forensic neuropsychologists are the evaluators best suited to evaluate mental retardation in an *Atkins* case is based on several factors, which form the organizational structure for this section: (1) the historical basis and nature of the *Atkins* decision; (2) the various definitions of mental retardation; (3) the measurement of intelligence; (4) the level of psychometric sophistication of measures of adaptive functioning, another major prong in the diagnosis of mental retardation; (5) malingering. (Many of these issues are relevant to presentations of other forms of CNS compromise discussed previously.)

Legal Precedents

Before addressing each of these factors, a review of relevant death penalty U.S. Supreme Court decisions will set the stage for the importance of thorough and objective forensic neuropsychological evaluations for the investigation of mental retardation. As previously discussed in this article, many attributes of the defendant, relevant historical information or the conditions of the defendant's life and/or instant offense, among other factors can be presented to the jury for their consideration in mitigation or aggravation during the punishment phase of the trial.

In 1979, Johnny Paul Penry was released from prison in Texas after serving a sentence for aggravated sexual assault. Penry had been tested on several occasions for mental retardation beginning at a preschool age. He was found to have IQs in the range of 50-70. Penry's mental retardation was clear enough to have him admitted to a state school for the mentally retarded when he was in late childhood. After Penry's release from prison in 1979, he was in the process of obtaining evaluation and assistance from the Texas Rehabilitation Commission. He rode his bicycle around the small town of Livingston, Texas, looking for work and occasionally finding odd jobs such as assisting in the delivery of appliances. Weeks after his release from prison, he helped deliver a refrigerator to the house of the victim. Later, he returned to her house on his bicycle and brutally raped and killed her.

In 1980, Penry was tried and convicted for capital murder in Texas and was given the death sentence. Under Texas law at that time, evidence concerning his childhood abuse and mental disability was not allowed to be presented. The U.S. Supreme Court reversed the decision of the trial court (*Penry v. Lynaugh*, 1989, subsequently known as *Penry I*). In 1991, Penry was given a retrial for sentencing. One of the authors of this article (JRP) evaluated Penry at the request of the defense and

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found his IQ to be 63, and a neuropsychological evaluation also re-
 vealed the expected cognitive deficits in such areas as frustration toler-
 ance, impulse control, and abstract thinking. However, Penry was once
 again given the death sentence. This verdict was reversed in *Penry v.*
Johnson (2001), subsequently referred to as *Penry II*. Relying on two
 errors, *Penry II* held that: (1) Penry's Fifth Amendment rights were vio-
 lated when the defense's expert was asked by the prosecution to read
 into the record portions of a past report referring to Penry's future dan-
 gerousness; (2) the instructions to the jury were internally contradictory
 and did not comply with the directions given by the Supreme Court in
Penry I.

In the summer of 2002, Penry was given a third sentencing trial.
 Again, he was re-evaluated (by JRP) for more information on adaptive
 behaviors. This trial also resulted in a death sentence for Penry. How-
 ever, during the middle of this trial, the U.S. Supreme Court published
 the *Atkins* decision. The Texas Legislature had passed a bill in its previ-
 ous session to ban the execution of defendants with mental retardation
 (but the Governor of Texas had refused to sign it). In this legislation, a
 judicial procedure was suggested, so the judge did not stop the trial of
 Penry in 2002 but rather followed that procedure, found Penry not to be
 mentally retarded, and instructed the jury to answer the same question.
 The jury reached the same decision—that Johnny Paul Penry was not
 mentally retarded and that he should be executed by lethal injection.
 The Penry trials received national attention, but it was *Atkins* that made
 new law. As of this writing, Texas remains without a statute barring ex-
 ecution of persons with mental retardation or a means for determining
 who they are.

The *Atkins* (2002) decision held that the execution of criminals with
 mental retardation is "cruel and unusual punishment" and prohibited by
 the Eighth Amendment to the U.S. Constitution. The Court supported
 its ruling with three factors: (1) changes in the citizenry and its legisla-
 tors regarding the prevailing standards of decency concerning the grad-
 uation and proportionality of punishment; (2) changes in trend in vari-
 ous states in the prohibition of the execution of the mentally retarded
 that suggests that mentally retarded offenders are less culpable; (3) the
 diminished mental capacities of the mentally retarded. Judge Stevens,
 writing for the majority, lists the following areas in which individuals
 with mental retardation have diminished mental capacity: (1) under-
 stand and process information; (2) communicate; (3) abstract and learn
 from experience; (4) engage in logical reasoning; (5) control impulses;
 (6) understand other's reactions. Of interest is that the U.S. Supreme

Court relied in part on various opinion polls regarding the public's attitudes concerning the execution of individuals with mental retardation.

The court opined that these diminished capacities do not excuse the criminal behavior of individuals with mental retardation but rather negate the two most often cited justifications for the death penalty—retribution and deterrence. Justice Stevens added the higher probability that individuals with mental retardation: (1) confess to crimes that they did not commit; (2) assist their own counsel to a lesser ability; (3) typically make poor witnesses, and (4) give mistaken impressions to the jury regarding lack of remorse. Finally, the *Atkins* decision contained a general definition of mental retardation but left more precise diagnostic rules and procedures for the determination of mental retardation to each state.

A brief review of the facts of the *Atkins* case might prove helpful. Daryl Renard Atkins and a co-defendant spent a day using alcohol and marijuana, then drove to a convenience store to rob a customer. They abducted and drove a U.S. Air Force airman to an automated teller and forced him to withdraw \$200, then drove to a deserted area where Atkins killed him by shooting him eight times. Atkins had 16 prior felony convictions for violent offenses. The defense retained expert witness, a psychologist, opined that Atkins had an IQ of 59 and was a "slow learner" with adaptive deficits in virtually all areas of functioning. The testimony of the state's expert will be discussed later in the following sections, which focus on the role of the neuropsychologist in *Atkins* cases.

Definition of Mental Retardation

Although minor differences in wording can be found among various definitions of mental retardation, the consensus is that three components are required: (1) substantial intellectual impairment; (2) deficits in adaptive behavior; and (3) appearance of the disability in childhood.

The two most important definitions in use today are to be found in the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (2000), usually referred to as the DSM-IV-TR, and in the AAMR publication, *Mental Retardation, Definition, Classification, and Systems of Support I* (2002). The DSM-IV-TR (2000) definition of mental retardation is as follows:

The essential feature of Mental Retardation is significantly sub-average general intellectual functioning (Criterion A) that is accompanied by significant limitations in adaptive functioning in at least two of the following skill areas: communication, self-care,

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home living, social/interpersonal skills, use of community resources, self-directions, functional academic skills, work, leisure, health and safety (Criterion B). The onset must occur before age 18 years. (p. 41)

A refinement of the 1992 definition, the 2002 AAMR definition of mental retardation is as follows:

Mental retardation is a disability characterized by significant limitations both in intellectual functioning and in adaptive behavior as expressed in conceptual, social, and practical adaptive skills. This disability originates before age 18. (p. 8)

The *Atkins* decision leaves the States free to adopt variations in the wording of the definition of mental retardation, so long as the definition does not exclude defendants who would fall under a definition embodied in the national consensus.

Measurement of Intelligence

A review of the history or the psychometric properties of the measurement of intelligence is beyond the scope of this article; however, it is worth remembering that the original purpose of post-Galton intelligence testing was Alfred Binet's attempt to identify children in need of special instruction and place them accordingly. This was followed by the efforts of Terman to "Americanize" the concept of the intelligence quotient (IQ), and then the extension of the measurement of intellectual functioning to all ages and to separate abilities by Wechsler. The early researchers in intelligence testing basically considered intelligence to relate the concepts of learning from experience and adapting to one's environment. This idea ultimately revealed discriminative tendencies as will be discussed in a following section.

Generally, the category of mental retardation corresponds to approximately the bottom 2% of the population, which is marked by an IQ of 70 or below on most intelligence tests (assuming a mean of 100 and SD of 15 along with a normal score distribution). However, measurement error has been taken into consideration. An IQ of 70 is thus considered to represent an IQ of approximately 65 to 75; therefore, an individual may be considered retarded with an obtained IQ between 70 and 75, a factor that is included in the DSM-IV-TR section on mental retardation. However, this statistical reality results in twice the number of individuals po-

tentially eligible for a diagnosis of mental retardation, as 5.48% of the population has an IQ that falls below 75, whereas only 2.28% of the population has an IQ that falls below 70. The potential problem lies in what the law frequently refers to as the lack of a "bright line" between borderline intellectual functioning and mild mental retardation, as the IQ criteria for mental retardation has been equated to an IQ of 70 to 75 or below (if the adaptive behavior deficits are present). MacMillan, Gresham, and Siperstein (1995) offer the suggestion of the use of an asymmetrical criteria in which the true IQ does not exceed 75. As most defendants with mental retardation fall within the mild range of mental retardation (IQ level between 50-55 and 70-75), this distinction between mild mental retardation and borderline intellectual functioning (IQ levels between 71 and 84, when common confidence intervals are applied) represents the cases most likely to result in controversial expert testimony. Estimates of the proportion of prison inmates with mental retardation have typically been found to mirror the general population (Denkowski & Denkowski, 1985; Sundram, 1990).

Other Conditions Involving Cognitive Deficits

One of the most influential forensic assessment concepts is the functional capacity approach, as first described by Grisso (1986, 2002). In this methodology, the psychological or neuropsychological assessment of legally relevant constructs constitutes the central component of a forensic assessment, as opposed to a clinical assessment where diagnosis and subsequent treatment planning is paramount. Extending this model to an *Atkins* evaluation quickly takes the neuropsychologist (not to mention the astute criminal defense attorney) to conditions other than mental retardation that can lead to the functional impairments outlined in the *Atkins* decision: (1) understanding and processing information; (2) communicating; (3) abstracting; (4) reasoning; (5) controlling impulses; and (6) understanding others' reactions. Indeed, the measurement of these processes is the domain of the neuropsychologist. Neuropsychologists could assist in the identification of atypical brain-behavior relationships in mental retardation as well as providing a "fine-grained analysis of cognitive, perceptual, and sensory-motor skills of people with mental retardation" (Jacobson & Mulick, 1996, p. 165). Also, neuropsychologists are the most qualified specialists in identifying non-mental retardation conditions that can lead to these functional impairments including traumatic brain injury, early onset dementias, and neurological illnesses, to mention a few.

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Although case law will ultimately decide this issue, it is not difficult to imagine a defense case being built around the above functional impairments, rather than the diagnostic category of mental retardation. On the other hand, perhaps the overlearned behaviors and once relatively normal development of individuals with traumatic brain injury, for example, may lead triers of fact away from the inclusion of these diagnostic groups in the same culpability camp as individuals with mental retardation.

Measurement of Adaptive Behaviors

Intelligence testing alone was once used to determine mental retardation, but the societal and legal climate stemming from the civil rights movement of the 1960s brought attention to the overrepresentation of minorities in the diagnostic category of mental retardation. Corroborative documentation in the form of information relevant to the individual's adaptive functioning or ability to cope with the demands of the environment became paramount to diagnosing an individual with mental retardation. The initial attempt to describe and ultimately measure adaptive behaviors appeared in Heber (1961).

Adaptive behaviors are described in the DSM-IV-TR (2000) as "how effectively individuals cope with common life demands and how well they meet the standards of personal independence expected of someone in their particular age group, sociocultural background, and community setting" (p. 42). The DSM-IV also lists several domains of adaptive behavior: (1) communication; (2) self-care; (3) home living; (4) social/interpersonal skills; (5) use of community resources; (6) self-direction; (7) functional academic skills; (8) work; (9) leisure; (10) health; and (11) safety. The DSM-IV-TR recommends that at least two of these skill areas be found significantly limited for a diagnosis of mental retardation. The ability to carry out such activities of daily living clearly has a cognitive foundation, and neuropsychologists need to be well versed in evaluating adaptive behavior quantitatively.

The AAMR first recommended a "composite" evaluation of adaptive behaviors in 1983, followed by 10 domains of adaptive skills similar but not identical to the DSM-IV-TR areas of adaptive behaviors. The most recent AAMR recommendation for the adaptive behavior component of a diagnosis of mental retardation requires either a significant deficit on an overall measure adaptive behavior skills or evidence of significant deficit (two standard deviations below the mean) on at least one of three types of adaptive behavior: (1) conceptual skills; (2) social

The Street Survival Skills Questionnaire (SSSQ; Linkenhoker & McCarron, 1993) was developed to assess the adaptive behavior knowledge of adults with mild to moderate mental retardation. This individually administered test consists of nine subscales: (1) Basic Concepts; (2) Functional Signs; (3) Tools; (4) Domestic Management; (5) Health and Safety; (6) Public Services; (7) Time; (8) Money; and (9) Measurement.

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The SSSQ offers substantial advantages in comparison to other adaptive behavior scales based on informant report. Two groups were tested to produce the norms for the SSSQ—a developmentally disabled group with a mean IQ of 58 and an intellectually normal group with a mean IQ of 97. The test's major disadvantage is that it measures knowledge relevant to adaptive skills—rather than the individual's typical adaptive behavior; however, it is objective with more than adequate reliability and validity data. Peer-reviewed studies indicate that it is significantly correlated to the Adaptive Behavior Scale-Public School Version (Giller, Dial, & Chan, 1986) and with Vineland Adaptive Behavior Composite scores (Janniro, Sapp, & Kohler, 1994).

The Brigance system consists of several tests to assess functional skills ranging from academic to employability skills. Within the Brigance system are three particular tests that assess skills that may be helpful in determining an individual's abilities to perform a variety of functional and adaptive behaviors. The three tests are: (a) Inventory of Essential Skills, (b) Employability Skills Inventory, and (c) Life Skills Inventory. The tests are not norm-referenced, and therefore do not provide a comparison of the examinee with a norm group. However, criterion-referenced tests such as these allow the examiner more freedom in administration (i.e., to rephrase questions or task requests or select certain sections of the test to administer), ensuring that the examinee understands items and can answer using his/her own words and actions. In addition, criterion-referenced tests provide clearer information regarding an individual's actual skills and knowledge than do scores from norm-referenced tests, yet score interpretation may be more subjective.

The stated purposes and content found in each of the three tests in the Brigance system are provided as follows:

1. The Inventory of Essential Skills (Brigance, 1981) "was designed primarily for use in secondary programs serving the student with special needs . . . by evaluating skills identified as essential for mastery if the student is to be able to function successfully and with the greatest degree of independence as a citizen, consumer, worker, and family member" (p. vii). Subtest areas include typical academic basic skills such as reading, writing, and math. In addition to these, related applied skills also are examined including content related to health and safety, vocational, money and finance, travel and transportation, food and clothing, oral communication and telephone use. In addition, 10 rating scales are available if needed. These may be administered to informants familiar

with the examinee or directly to the examinee. The rating scales assess health practices and attitudes, personality, responsibility and self-discipline, job interview skills, auto safety, and speaking and listening.

2. The Life Skills Inventory (Brigance, 1984) "evaluates listening, speaking, reading, writing, comprehending, and computing skills within the context of everyday situations" (p. v). Subtest areas contain the following content: speaking and listening, money and finance, functional writing, reading words on common signs and warning labels, using the telephone, food, clothing, health and transportation-related skills. Five rating scales also are included which assess speaking, listening, health practices and attitudes, self-concept, and auto safety. They may be administered as described in the Inventory of Essential Skills Information above.
3. The Employability Skills Inventory (Brigance, 1995) evaluates reading, writing, speaking, listening, comprehending, and computing skills as they related to employability. Subtests assess content related to career awareness and self-understanding, job seeking skills and knowledge, reading, speaking and listening, math, and pre-employment writing. Seven rating scales are available that assess job-related readiness, preparation, and experience.

The potential advantage regarding tests such as the SSSQ and the Brigance system is that they assess adaptive-like skills directly rather than relying on the memory of individuals who are supposed to know the examinee very well yet be objective in their ratings. The SSSQ and the Brigance tests described here hold promise for helping describe to juries the actual skills and knowledge an individual possesses. Clearly, much work is needed in the area of the reliable and valid assessment of adaptive behaviors for the determination of mental retardation, especially in the context of an *Atkins* evaluation.

Malingering

Non-neuropsychologists (and some neuropsychologists) mistakenly assume that any measure of malingering can be used to determine if someone is malingering mental retardation in a criminal proceeding to avoid punishment. One recent legal case from the Mississippi Supreme Court epitomizes this notion. In *Foster v. Mississippi* (2003), the appellant has filed an *Atkins* claim with WAIS-III IQs of 68 (Verbal), 59 (Performance), and 62 (Full Scale). The judge apparently ordered

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the appellant to take the MMPI-2, as it is the test best suited to detect malingering.

Recently, two issues of the *Journal of Forensic Neuropsychology*, edited by Hom and Denney (2002a, 2002b), were devoted to the efforts of forensic neuropsychologists in the development of malingering measures, and few would disagree that the field of forensic neuropsychology has been at the forefront in this arena (Reynolds, 1999). Research on the following frequently used neuropsychological measures of malingering was reviewed: Rey's 15 Item and Dot Counting Tests, Portland Digit Recognition Test, Victoria Symptom Validity Test, Test of Memory Malingering, The Word Memory Test, Validity Indicator Profile, Warrington's Recognition Memory Test, Minnesota Multiphasic Personality Inventory-2, Computerized Assessment of Response Bias, Mittenberg's formulae, Category Test, and, other indices of the Halstead-Reitan Neuropsychological Test Battery. In spite of the psychometric sophistication of the malingering measures presented, their use is to detect malingering brain injury or even a specific aspect of neuropsychological functioning such as memory. None were designed to detect malingering mental retardation. However, the Validity Indicator Profile has been administered to a sample of individuals with historically demonstrable mental retardation living in assisted living in the community (Frederick, 2002). Of these profiles, only 5% were classified as being Compliant, 50-65% were classified as Careless; most of the remainder were classified as Irrelevant, and one of 40 mental retardation profiles was classified as Malingering.

The intellectual level of the examinee must be taken into consideration when attempting to assess malingering. Hays, Emmons, and Lawson (1993) found that the Rey 15 Item Test could be used but with a lowered cutoff score. The Test of Memory Malingering (TOMM) is frequently used in conjunction with an *Atkins* evaluation even though it was developed as measure of malingered memory—not intelligence—and was not normed on individuals with mental retardation. Tombaugh (2002) reported that, while a low score on the TOMM should raise concerns regarding the validity of scores from other tests, it is not a measure of a general trait called "malingering." Tombaugh also advises that malingering should not be diagnosed from any single test but rather from all relevant information and is ultimately a clinical judgment made by a skilled forensic evaluator.

Reviewing records as well as conducting a face-to-face evaluation best assesses malingering in an *Atkins* evaluation. Clearly, documented testing conducted during the developmental period is the richest source

of information. School files must be reviewed, and the presence of special education evaluations with ultimate eligibility determination for mental retardation is the evidence to be most relied upon. Tombaugh (2002) wrote, "Psychometric inconsistency is the hallmark of malingering" (p. 71). Other factors to look for include: (1) score discrepancies on different IQ and achievement tests as well as adaptive behavior assessments; (2) failing easy items on a test while passing more difficult ones; (3) patterns of scores that are inconsistent with mental retardation; and (4) records related to adaptive functioning such as work records, military history, driving record, financial records, etc. Clinical judgment based on the comparison of the results of a face-to-face ethical, comprehensive forensic neuropsychological assessment with the results of testing and evaluations conducted during the developmental period will likely yield the most credible expert opinions regarding the diagnosis of mental retardation or the presence of malingering. The trier of fact in *Atkins* cases deserves no less.

THE RELATIONSHIP BETWEEN THE LAWYER AND THE NEUROPSYCHOLOGIST

It is important to note several misconceptions that lawyers may have about neuropsychologists and mental health experts generally and their role in the defense of a client who is charged with a crime. These misconceptions, as we have encountered them, include:

1. The expert needs only to "shrink" the client or "run a full battery of tests" to find "the answer";
2. The expert is there to provide the defense with its theory of the case;
3. All experts understand the law applicable to the case;
4. All experts are equally good, confident, and effective when testifying before a jury.

It is suggested that, if the trial lawyer asks the neuropsychologist to "shrink" the client (whatever that means), or to "run a full battery of tests" that the neuropsychologist suggest a "time out" be taken to discuss the strategy to see if it is well conceived, as well as taking the time to educate legal counsel regarding what can be expected reasonably from a neuropsychological examination. Lawyers will often make these broad requests because they are not aware of a better practice in devel-

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Reynolds, Price, and Niland

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oping mental health evidence. One cannot assume that, just because a lawyer has experience in capital litigation, that the lessons learned and practices adopted are all good.

The consequences of rushing into an unguided complete psychological examination of the client are, at best, unpredictable. This practice can produce data that are not relevant and of no help at all, data that are both relevant and helpful, or data that are harmful. If harmful data are generated, then counsel may not be able to use any of the expert's data, and the money paid to the expert is generally wasted. As most capital defendants are indigent, resources are at a premium. Because of the client's indigent status, most capital case defense is funded by the taxpayers of the country and/or state. Funding for expert assistance is scarce. Judges are not likely to re-authorize funding for expert assistance when the original authorization was not used wisely.

As an alternative method, it is suggested that the neuropsychological and related mental health evidence be developed incrementally and that a litigation approach, rather than a therapeutic approach, be followed. Following this approach will help to ensure that the roles of the CN and the TE will be clear. Clarity of purpose will help to insure a good working relationship.

Suggestions for maintaining a good working relationship between the trial lawyers and the neuropsychologist would include:

1. Be accessible.
2. Maintain a user friendly personal style.
3. Quote reasonable fees; understand the payment process in indigent cases.
4. Understand team concept and your position within the team.
5. Understand the litigation approach v. the therapeutic approach in developing evidence.
6. Be knowledgeable in the field, but be honest about your shortcomings.
7. Be aware of the current research, studies, and literature.
8. Understand your personal, professional, and scientific limitations.
9. Adapt to the lawyer's level of expertise.
10. Try to be comfortable and credible on the stand.
11. Do not talk "down to" or "over the head" of jurors.
12. Understand the dynamics of direct and cross-examination and prepare for cross.
13. Be prepared to support your opinions.

14. Be credible and objective at all times, and an advocate for your opinions as supported by the scientific literature.
15. Don't be afraid to ask questions or offer suggestions.
16. Inform lawyers of any perceived weaknesses in personal or professional background.
17. Advise lawyers of any perceived weaknesses in testing or theories.

The relationship between the trial lawyers and any mental health expert, including the neuropsychologist, must be built on trust, confidence, and good communication. Hopefully, each team member will be able to bring out the best of the others in the defense of a client charged with a capital crime.

DEVELOPING DEATH PENALTY MITIGATION

Every capital defense should begin with a biopsychosocial history. This should be developed by someone who is trained to identify those issues in a client's life that may help to explain why the client may be capable of the horrible offenses charged in the indictment. In the *Wiggins* decision noted above, the Supreme Court essentially mandated the preparation of a thorough social/life history in all capital felony cases.

The history will often be collected by a social worker or mitigation specialist who will interview the client, all relevant people in the client's life, and collect and summarize all of the records that are indicated as being important by the history. These records are also reviewed to see if there are references to other records or incidences in the client's life where additional records may be suggested. The mitigation specialist will be looking for any indications of neurological impairment or activities that might cause such impairments.

When such indications are seen, the trial team may then seek a consulting mental health expert who can review the work of the mitigation investigator, identifying mental health and related neuropsychological issues for the trial team to consider. Since nearly all capital cases are brought against indigent defendants, court approval for the neuropsychological team described earlier is usually necessary. The neuropsychologist, having been trained in professional psychology broadly with special expertise in brain-behavior relationships, seems ideal in this role. The consulting expert can aid defense counsel in obtaining neces-

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Reynolds, Price, and Niland

117

sary funding by providing an affidavit that will help make the threshold showing of need under *Ake v. Oklahoma* (1985). All motions for funding should be done *ex parte* (meaning between the judge and counsel and experts for one party without the knowledge of opposing counsel), as is approved by *Ake* and some local statutes (Tex. C.Crim.Pro.26.052[f]). The *ex parte* hearing of the motions is important to both the defense and the mental health expert. If the client was not indigent and was able to pay for his own defense, there would be no reason for counsel to get funding approval from the court, nor would there be any obligation to inform the prosecution of the names of the experts retained. Most jurisdictions will require some type of notice as to the names of those experts who will ultimately testify, but this should not apply to the stage of the proceeding where the defense is asking for necessary funding. The indigent client should be put in no worse position than one who may have means.

The consultant is a member of the defense team who can identify and develop theories of defense and/or mitigation and choose one or more experts who will serve as a testifying expert. The testifying expert will educate the jury and/or provide opinions that are based on a review of relevant documents and appropriate tests. On our team approach, we prefer neuropsychologists in both roles.

The consultant can assist the trial team in developing the focused referral question that asks the expert to consider one or more clearly defined areas that underlie the defense/mitigation theories. Documents that are relevant to the chosen theory or theories are provided, and relevant tests may be performed. If, following a review of the records and review of any raw test data, the testifying expert can support the theory of defense/mitigation, then he/she may be used to testify at trial. If the records/tests do not support the theory, then it will be reevaluated. Whether or not the expert will be able to provide an opinion on the ultimate question usually depends on whether or not the state has adopted Rule 704 of the Federal Rules of Evidence.

The neuropsychologist's understanding of psychological, personality, cognition, and brain functioning make him/her an excellent choice to act as the consulting or testifying expert. However, the forensic neuropsychologist will also need a working knowledge of the rules of evidence and related court procedures in capital cases. As Melton et al. (1997) cogently point out, in cases where the state seeks to kill the defendant, the courts have created special burdens as well as carefully prescribed privileges. An expert unfamiliar with the special nature of death

penalty cases may inadvertently open doors for the state that are otherwise sealed.

Developing the mental health evidence incrementally offers the defense many benefits. One of the more important of those is the potential for limiting the scope of the examination of the client by the mental health expert who has been hired by the prosecution (e.g., in Texas, see *Lagrone v. State*, 942 S.W.2d 602 [Tex.Crim.App. 1997]). If the defense's mental health expert offers testimony that is based on his or her examination of the client, then the state will most likely have the opportunity to conduct an examination that is similar in scope. However, if the examination has been properly focused, based on a properly phrased referral question, then the state's examination of the client should be similarly limited. This will avoid wholesale damage to the client's rights under the Fifth and Sixth Amendments to the U. S. Constitution.

Should the defendant be required to undergo an examination by a prosecution-hired mental health expert, the Court's order should include the following conditions, most of which are approved in the *Lagrone* opinion:

- the defense is to be notified as to time and place of state-sponsored exam;
- counsel should be available for consultation with the client during the exam (this does not mean in the same room, only available for the client to see during a break or requested time to clarify issues or determine if Fifth Amendment rights, for example, are being violated);
- the state mental health expert is to prepare a report that goes only to the judge for in camera inspection (viewed in the judge's chambers, not in open court). If there is exculpatory material contained in the report, that information is to be disclosed to the defense under *Brady v. Maryland* (1963).
- the report is sealed until the defense calls its examining witness, and it is then given to the state and to the defense;
- there is to be no communication between the state and its expert about the exam or any conclusions that were drawn from the exam until the defense witness testifies;
- both experts can be in the room while the other testifies;
- defense expert can be called to rebut state's witness;
- any testimony by the state expert is to be limited to the issues raised by the defense expert (*Soria v. State*, 1996).

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Reynolds, Price, and Nlland

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We have also found it useful to have a CN available during the examination, as well as during the testimony of the state's expert, since any communication the CN will have with the trial team is privileged. The TE has no such privilege.

THE JUVENILE CHARGED WITH A CAPITAL CRIME

The juvenile who has been charged with a capital offense may have the same diminished personal culpability that the Supreme Court spoke of in *Atkins* when discussing the person with mental retardation. The neuropsychologist can help the trial team understand the lack of full development in the juvenile brain, explaining myelin's role in brain development and the ability to make mature decisions. The late (relatively) maturation of the frontal lobes and their role in the self-regulation of behavior and the development of social conscience should be emphasized in such cases. Detailed explanations of neuronal maturation at the cellular as well as the systemic level will be required. An affidavit or testimony from a neuropsychologist in support of a challenge to the state's decision to seek the death penalty for a juvenile may be appropriate.

As of now, the execution of a juvenile certified to stand trial as an adult is not prohibited by the Eighth Amendment to the U. S. Constitution (*Stanford v. Kentucky*, 1989). However, as Chief Justice Earl Warren explained in his opinion in *Trop v. Dulles* (1958): "The basic concept underlying the Eighth Amendment is nothing less than the dignity of man. . . . The Amendment must draw its meaning from the evolving standards of decency that mark the progress of a maturing society" (*Atkins* at 311, 312). Perhaps the standards of decency in our country will evolve to the point where we will no longer execute those whose brains, for any reason, are not fully developed.

POST-CONVICTION APPEALS AND THE NEUROPSYCHOLOGIST

The defendant sentenced to death is granted automatic appeal. During this process, the neuropsychological status of the defendant may become an issue. A neuropsychologist may be asked to review the defendant's medical and psychosocial histories to determine whether any indication of CNS compromise existed that should have been evaluated. If there is such evidence, the neuropsychologist can then submit an affi-

davit indicating the basis for this opinion. The importance of this issue lies principally in mitigation. A judge or a jury may or may not find CNS compromise to be mitigating in a particular case, but trial counsel has an obligation to discover and to present such information to the trier of fact.

If the appeals court determines that an examination should have been done, it will grant the requested examination and appointment of the proper expert. Once the neuropsychological examination is completed, the findings will dictate the next step. If the examination does not reveal objective evidence of CNS dysfunction, the failure to have the defendant examined prior to sentencing is not error. However, should the examination reveal objective evidence consistent with CNS compromise, a new affidavit will likely be requested, arguing that these findings should have been made prior to sentencing and presented to the jury.

It is crucial in such cases to link the nature of the CNS compromise to the offense if it is reasonable to do so and the data support such a link. It is not enough to show the appeals court that CNS compromise existed and that the jury was not informed—the new evidence must be of a nature that may well have produced a different outcome at sentencing. Such a finding is within the discretion of the court. Having worked many such appeals, we have seen a variety of outcomes. For example, in one case, multiple brain injuries had been sustained by a defendant (beginning at age 5 years and extending into his 20s, the last caused by a blow to the head from a police officer and resulting in transfer to a trauma center and subsequently uncontrolled, idiopathic seizures), and notable neuropsychological impairment was documented during an examination conducted on death row. The Federal judge reviewing the case on appeal ruled that the defense indeed should have discovered and presented this information to the jury, but that this error was inconsequential since the facts of the offense were so terrible that the jury would not have been swayed by the brain injury evidence and would still have awarded the death penalty.

When evidence of CNS compromise has been presented and a death penalty verdict returned, a neuropsychologist may be asked, on appeal, to review the examination, results, and presentation of the colleague who testified. This is an uncomfortable position, but such review is warranted in the special case of the death penalty. The design of the examination, interpretation of findings, and the presentation to the jury must all be scrutinized to determine its accuracy, thoroughness, and whether any additional, related evidence should have been brought forth. If so, the affidavit process described above may be initiated.

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Reynolds, Price, and Niland

121

CONCLUDING REMARKS

Given the stakes, DP litigation is the most serious and stressful work a forensic neuropsychologist can perform. In order to prepare properly and work with the trial attorney, the neuropsychological team should be brought into the team as early in the process as is feasible. We have attempted to describe the primary roles of the CNs and TEs in DP litigation but caution that every DP case is unique in some important aspects and will present its own challenges. However, it is also clear to us that the impact of CNS compromise on a defendant's behavior and cognitions is relevant to many aspects of a capital case. Neuropsychologists are in a unique position to educate the other members of the defense team and ultimately the trier of fact on these relevant issues. It is only when each of the jurors understands fully every aspect of a defendant's life, including the biopsychosocial systems that interact to produce behavior, that the all-important decision of life or death be made fairly and competently.

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